Answers to CHAPTER 2 Tests

Test Form A

1. c	**2.** d	**3.** b	**4.** c
5. d	**6.** a	**7.** b	**8.** b
9. d	**10.** e	**11.** c	**12.** a
13. d	**14.** b	**15.** b	**16.** d

Test Form B

1. b	**2.** d	**3.** a	**4.** d
5. a	**6.** c	**7.** a	**8.** c
9. b	**10.** b	**11.** d	**12.** b
13. c	**14.** c	**15.** c	**16.** a

Test Form C

1. d	**2.** b	**3.** d	**4.** c
5. a	**6.** c	**7.** a	**8.** c
9. d	**10.** c	**11.** b	**12.** b
13. a	**14.** a	**15.** c	**16.** e

Test Form D

1. $-\frac{1}{x^2}$ **2.** $\frac{6x^2+2}{(1-3x^2)^2}$ **3.** $\frac{x^2(7x+3)}{\sqrt{2x+1}}$

4. $\frac{-3\cot^2\sqrt{x}\left(\csc^2\sqrt{x}\right)}{2\sqrt{x}}$ **5.** $\frac{-2}{(2-x)^3}$

6. $42\ \text{ft/sec}^2$ **7.** $\frac{y}{(x+y)^2+x}$ **8.** $-\csc y$

9. $2\theta\sec\theta^2\tan\theta^2$ **10.** $2\sin 2x$

11. $x-4y=-5$ **12.** $\frac{1}{3}, 1$ **13.** $4x-\frac{1}{x^2}$

14. a. $s=-16t^2-26t+220$ **b.** -58 ft/sec

15. $\frac{1}{\pi}$ in/sec

16. $f'(x)=3x^2+4x+6=4$

$3x^2+4x+2$ has no real zeros.

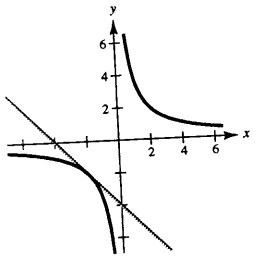
Test Form E

1. a. no derivative **b.** negative **c.** zero

d. positive **e.** zero

2. a. $-\frac{4}{x^2}$ **b.** -1 **c.** $y=-x-4$

d.



3. $\left(-\frac{3}{2}, -\frac{2}{3}\right)$ and $\left(\frac{3}{2}, \frac{2}{3}\right)$

4. a. -64 ft/sec **b.** -96 ft/sec

c. $\frac{5\sqrt{30}}{4}\ \text{sec} \approx 6.85\ \text{sec}$

d. $-40\sqrt{30}\ \text{ft/sec} \approx -219.09\ \text{ft/sec}$

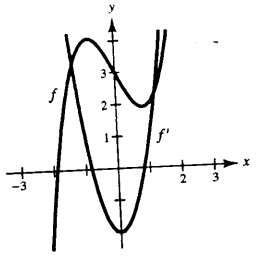
5. $4\pi\ \text{ft}^2$ **6.** $5\sec x(2\sec^2 x-1)$ **7.** $\frac{6+2\sqrt{3}\pi}{3}$

8. a. $5x^4-5$

c. $(-1, 4)$ and $(1, -4)$

d. 0

9.



The derivative of f is zero if its tangent line is horizontal.

10. $\frac{10}{(2x^2+5)^{3/2}}$

11. $\left(\sqrt{2}, -2\sqrt{2}\right)$ and $\left(-\sqrt{2}, 2\sqrt{2}\right)$

12. $\frac{96}{845}$ rad/sec